

Abstract

It is desirable to provide an improved system for describing the impact of a change in routing on the performance of wavelengths traversing the links in a optical communication network. It is also desirable that such a system be computationally simple. The present invention accomplishes these aims by providing a mechanism for the development of a set of metrics that describe the impact of different fiber types and lengths bearing a number of wavelengths, on one of the wavelengths propagated by a given input power. These metrics permit the prediction of a wavelength's behaviour by simple calculations. Accordingly, the need for full non-linear simulation is obviated, thereby improving the speed, efficiency and flexibility of optical layer routing algorithms.